

# W5YI REPORT

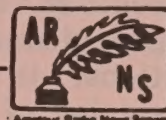
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## Dits & Bits

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## FCC GEARS UP TO REIMPOSE LICENSE FEES

As expected, the FCC has released a Notice of Proposed Rulemaking last week seeking to implement certain provisions of the Consolidated Omnibus Budget Reconciliation Act of 1985. (Public Law No. 99-272.)

The Budget Act, signed into law by the President on April 7, 1986, added a new Section 8 to the Communications Act, which contains a Schedule of Charges applicable to many potential and current FCC licensees in the Private Radio, Mass Media and Common Carrier services.

In addition, the Schedule creates fees for certain equipment authorization actions. Section 8 also directs the Commission to begin collecting fees by April 1987; creates a formula for modification of fees, establishes penalties for late payments; exempts certain radio services and entities; and permits waivers and deferrals in specific instances.

### BACKGROUND OF RADIO LICENSE FEES....

First begun in 1963, fee collections were suspended in 1977. The FCC had collected millions of dollars - much of it (\$50 million) from Citizens Band operators. The years 1975, 1976 and 1977 were the biggest ever for CB when more than 12 million licenses were issued. While it only cost the FCC 25¢ to issue a CB license - most carried

a \$4.00 fee (although some cost \$20 before early 1975.)

Amateur radio license fees varied. Routine licenses carried a \$9.00 charge up to \$25.00 for a special call sign. Broadcasters, common carriers, private radio users ...electronic manufacturers requesting equipment approval all had to pay a charge. Some were huge! Radio license fees became a big money-maker for the U.S. treasury.

The FCC is an administrative agency of the government and as such isn't supposed to make money on its activity. The Supreme Court started getting involved in the FCC collections program in the early 1970's. The Court of Appeals for the District of Columbia directed that the money mill come to a screeching halt in December, 1976, because of the Commission's failure to link the amount of fees to its direct cost of processing an application.

A fee refund program, begun in 1979, and ending in 1985, resulted in almost \$59 million in refunds to approximately 162,000 applicants. Ironically, most CB operators didn't get a refund. A ruling was made that the cost of refunding a portion of the small \$4.00 fee was prohibitive. Many amateur operators who paid \$9.00 did get a partial refund (\$3.28) and \$20.00 CB licensees did get \$17.99



back. The fee refund program was held in phases. CB, Amateur, Land Mobile, Aviation/-Marine, Commercial Radiotelephone permits and other Private Radio fees were part of Phase II.

The Commission confused (and somewhat annoyed) asked for Congress' help in coming up with a statutory version of fees that would recover the identifiable costs of services provided to private individuals or organizations. It has taken nine years, but Reagan's signing of Public Law has laid the groundwork for license and equipment approval charges to be reimposed. The NPRM issued last week details how the Commission plans to get back into the fee collection business.

## FCC PROPOSAL FOR FEE COLLECTION....

The FCC said that fee collection would be guided by three principles:

- (a.) Fee collection should not adversely affect FCC application processing and equipment authorization programs;
- (b.) fees should be collected and deposited in the most cost effective manner possible; and,
- (c.) fees should impose little or no paperwork burden on the public.

The NPRM proposes the following and asks for public comment;

(1.) Amount of Charges: The Schedule of Charges would be written into the Commission's rules exactly as created in the new Section 8(a) of the Act. Any changes in the fee amount, or the addition or deletion of a fee would take formal rule making or Congressional legislation.

(2.) Retention and Refund of Charges: Fees would be retained by the government and returned only in limited instances ...such as for an overpayment, insufficient fee or when no fee is required.

(3.) FCC Forms: The public would not have to complete a fee form in addition to the FCC forms required for a particular service. License fees must accompany the current FCC forms.

(4.) Payment Locations: Mass Media and

Common Carrier applications/filings/fees go to Washington, DC; Private Radio to Gettysburg, PA. Equipment authorization requests now going to Laurel, Maryland, would go to Washington, D.C. All frequency assignments in Land Mobile field are now accomplished by various user groups. Of particular concern is the development of a method of integrating the frequency coordination process required of all private Land Mobile applications into the proposed fee collection program.

(5.) Timing of Payments: Full fee payments must accompany a chargeable application when submitted to the Commission. Partial payments or installments not permitted. Applications without a remittance or insufficient funds would be returned unprocessed to the applicant.

(6.) Method of Payment: Fees would be payable by check, bank draft or money order payable to the FCC. Separate fees for each application - or package of applications for the same action in the same radio service.

(7.) Penalties for Late or Failed Payment: A 25 percent penalty would be imposed when the FCC grants a deferral request or bills the applicant, when an insufficient fee is discovered after processing has begun or a license modification results in a larger fee.

(8.) Changes to the Schedule of Charges: Fees listed would be revised every two years based on the percentage change in the Consumer Price Index. All adjusted fees will be rounded off to the next \$5.00 increment.

(9.) Radio Services & Entities Exempt From Charges: The FCC proposed to exempt applicants for public non-commercial radio services. Specifically exempted are the Special Emergency Radio, Public Safety Radio, governmental stations and non-commercial educational AM/FM/TV outlets. The Commission defined government stations to include those of any "any possession, state, city, town, village, municipal corporation or political organization thereof controlled by publicly elected or appointed officials exercising control over their respective communities or programs."

(10.) Waivers and Deferrals: This is the section of the NPRM that most radio operators will be interested in. While never mentioning the CB, GMRS or Amateur Radio Services in



the NPRM at all, the FCC left the door open for these services to be exempted by a waiver of the statutory fees "where such action would promote the public interest." It now appears appropriate for radio enthusiasts everywhere to point out their "public interest" and emergency-preparedness activities.

The Commission stated that fee collections would begin no later than April 2, 1987. A 30 day comment period was established after publication in the Federal Register. [Action by FCC, June 25, 1986, by NPRM.]

## BOGUS DISTRESS CALLER IMPRISONED...

An electronic stake-out by engineers in unmarked cars from the FCC's Philadelphia office has yielded a marine band hoaxer who got his kicks by sending Coast Guard rescue vessels to the scene of fake marine accidents.

The Coast Guard's Gloucester City, N.J., search/rescue facility had been plagued during the past year by many bogus "Mayday" broadcasts barked over marine Channel 16. They got more than fifteen of the phony distress calls. Channel 16 is reserved solely for distress signals and emergency broadcasts.

In each case the Coast Guard station directed a rescue boat toward the ship's reported position only to find nothing. It got so they even recognized the caller's voice. Still they responded. False distress calls made on the radio airwaves violate federal law. As the radioed hoaxes became more frequent, elaborate, abusive and expensive, the Coast Guard notified the FBI and the FCC.

Using what was termed "James Bond" radio surveillance equipment, FCC engineers and FBI agents simply drove to the source of the illegal signal. Arrested was 22 year old Bruce Humenik of Maple Shade, New Jersey.

Humenik pleaded guilty to threatening a Coast Guard radio operator in Federal Court. Judge Garrett E. Brown, Jr., ordered Humenik confined for 90 days to a Federal Prison Facility for a psychiatric evaluation. After the 90 day period, Humenik is to reappear before Judge Brown for sentencing. He faces five years imprisonment and a \$250,000 fine.

## HOME SATELLITE DISH NEWS....

¶ We now understand that SPACE, the satellite television industry trade association is not legally bankrupt - "broke" is a better way of putting it. They reported a \$370,000 deficit for their last fiscal year and had to make a special membership assessment and a dues increase. Even so, they are still in the red to the tune of \$109,000. SPACE was billed for some half a million dollars in legal fees last year.

¶ The home satellite business is off some 80% since HBO began encrypting its signal. One by one, other satellite programmers have followed. Most are using M/A-Com Video-Cipher technology. CNN and Headline News is the most recent. They begin full time addressable scrambling on July 15th.

¶ The attendance at the Dallas SPACE satellite dish trade show was down - mostly because of the state of the industry. Several well known manufacturers (including R. L. Drake, M/A-Com, ...Scientific-America) failed to show. One of the seminars featured a talk on "Surviving the Crash of '85". SPACE chairman Taylor Howard said the day is coming when direct satellite programming will be the main market and consumers that only have cable and broadcast access will be second class citizens.

¶ Rep. Dan Coats (R-IN) introduced legislation that would require the FCC to ban satellite TV scrambling if owners of home satellite gear aren't offered access to programming at competitive prices. Under the terms of the bill, the FCC would be required to monitor the satellite airwaves, provide annual reports to Congress and decide if satellite programming charges are equitable. Bill also increases penalties for jamming transponders.

¶ Legislation also introduced last week seeking to ensure that satellite carriers can market scrambled cable superstations to home dish owners without having to negotiate with copyright owners for the rights to each retransmitted show. Under a new proposed licensing system, carriers would pay 12¢ per dish subscriber per month to a pool that would be divided up among programmers.



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¶ In an agreement made between satellite programmers and the cable industry, an increasing amount of cable operators are offering satellite program packages to dish owners in their franchise areas. The dish owner simply calls the cable company and asks that their addressable decoder be turned on. They also get a monthly bill. Decoder signals ride piggy-back with the downlinked satellite program.

¶ Here's how addressable satellite decoding works at least at HBO. HBO has a special order entry computer that keeps track of a multi-million subscriber base. During transmission, information regarding current subscribers is constantly fed to M/A-Com's DBS Control Center in La Jolla, California, over telephone lines from HBO. M/A Com marries the HBO customer data to their encryption information and ships the signal back also by phone to HBO which in turn uplinks it to cable operators or TVRO's.

¶ Home satellite manufacturers are still at odds, however, with cable system operators. Dishmaker Randy Winegard of Winegard Co., Burlington, Iowa, testifying at a mid-June House Telecommunications Subcommittee hearing said "the cable industry's vicious anti-earth station advertising campaign" has resulted in TVRO sales dropping from 70,000 units per month to 10,000.

¶ The June issue of High Technology reports that by using low cost spread spectrum techniques, as many as 80 users can send and receive different digital data over a single satellite transponder simultaneously. Each user has a different frequency despread code allowing a side benefit, secure encrypted communications and small 2-foot dishes. A Mountainview, California, firm currently is distributing news, stock reports and other information via satellite spread spectrum.

¶ Automatic Satellite Uplink ID'ing coming? To eliminate future "Captain Midnight" satellite jamming episodes, Rep. Tim Wirth (D-Colo.), chairman of the House Telecommunications Subcommittee, has asked the FCC to look into requiring satellite uplink facility identification codes to be continuously transmitted along with satellite signals.

¶ Voice of America's Radio Marti, which Reagan administration proposed as means of breaking what it considers the Castro government's monopoly on news and information in Cuba, has been on the air on 1180 khz. now a year. Ernesto Betancourt, a former high-ranking Castro government official, is director of the news service. Thus far, fears that Castro would retaliate by stepping up interference have not been realized. Radio Marti has become very popular and Cubans listen to it openly now. At first they faced being fired from their job if they were caught. The police were called in the second time. Marti was Cuba's lone source of comprehensive information about the nuclear accident at Chernobyl.

¶ High-Tech Voice of America - Radio Moscow radio broadcasts over 2,000 hours a week in 81 languages, whereas the Voice of America has only 1,000 a week and 47 languages. It isn't widely known, but where the U.S. excels is in free satellite delivered information programming. "Worldnet" is the U.S. Information Agency's means of direct communication with the overseas TV viewing public through cable networks who simply add the service to their list of offered channels without cost. The Worldnet signal is satellite broadcast to European homes through cable companies who receive it free and unencrypted. The USIA plans to expand their Worldnet information channel to other parts of the globe and is currently negotiating for use of different satellite transponders around the world.

### THE CASE OF THE MANDATED A/B SWITCH

Should cable systems be required to carry local TV signals is an unbelievably hot issue among broadcasters at present. They can see their audience diminishing - and with it, advertising revenue.

A so-called "must carry" cable industry compromise has been developed where cable systems carrying fewer than 21 channels would have an "A" and a "B" switch installed to allow subscribers to tune their TV sets from cable to local off-the-air television broadcast stations.

Cable systems of 20 channels or more would be required to carry TV stations within

FCC-Novice Study Guide  
Code Tapes 5, 13 or 20 wpm  
\$3.00 + \$1.00 postage  
\$4.95 + \$1.00 postage

(New "Learn the Code" tape = \$4.95)



50 miles of their location as long as the stations maintain a viewership share of 2 percent or more.

Broadcasters say this is unsatisfactory since they don't think consumers will install the needed TV antennas and even if they do, an additional viewer operation is necessary to go from cable to broadcast. They think it will relegate broadcasting to second-class status and pointed out that over-the-air reception would be "technically deficient" - an admission that wireline picture quality is superior to that of broadcast. Cable companies maintain that "must carry" local TV stations are crowding more desirable programming off of limited cable systems.

Congress (thanks to lobbying by the National Association of Broadcasters and other broadcast organizations) is very much involved. The public comment period is now over and FCC chairman Mark Fowler said the agency would vote by August 7 on whether cable operators should have to include all local broadcast stations, and if so, what such a "must carry" rule should look like. August 7th marks the final FCC meeting date before the Commission's traditional summer recess.

The old "must carry" rules were found unconstitutional and voided by a federal appeals court in a case brought by (Ted) Turner Broadcasting System and Quincy Cable TV against the FCC. The NAB has also asked the Supreme Court to review the matter.

¶ Investigative reporting news organizations pleaded about recent Supreme Court decision that holds that even private persons suing for libel must prove that the statements at issue are false when those statements involve "matters of public concern." Several states had laws on the books putting the burden of proof on the media. Desenting Justice John Stevens called the new ruling "a blueprint for character assassination." In 1964 the Supreme Court ruled that public officials (later extended to public figures) could not prevail without proving the allegedly false statement was made with "malice" - that is with knowledge that the statement was false or with reckless disregard for the truth.

¶ We are moving closer to the January 1, 1987, cable deregulation date. You won't hear

much about it, but that's the date your local cable system can charge pretty much whatever the market will bear providing there is "effective (broadcast) competition." Consensus is a 10% rate hike is coming. Rate deregulation came about due to the Cable Communications Policy Act of 1984 when local regulation of cable TV - including rate setting authority - was pre-empted. Bill also prohibits treatment of cable as a common carrier.

¶ While the U.S. Attorney General's Commission on Pornography voted not to ask Congress to create a federal indecency standard for cable and satellite programming, they did vote to condemn the FCC for not enforcing current laws against obscenity. NDF, National Decency Forum, staged a demonstration last month calling for FCC chairman Mark Fowler to step down. Instead he re-upped for another term. FCC position is they don't concern themselves with content because programming is kept reasonable by internal network codes and marketplace pressures. Wireline cable systems are not subject to the same level of FCC program content regulations as the broadcast media.

¶ Even when the FCC does make an obscenity ruling, the courts strike it down. A case in point is a Congressional directive to make "dial-a-porn" services unavailable to children. A federal court in New York has set aside FCC rules that would have restricted minors from gaining access to "dial-a-porn." The messages are usually of the "moan and groan" sexual variety that are accessed by dialing 976 prefix telephone numbers. The funds are split between the service provider and the phone company.

The new FCC system required either a credit card or a "PIN" (personal identification number) to access the adult messages. A federal court ruled that the FCC system was unworkable for technical (rather than obscenity or free speech) considerations. New York Telephone's MAS (Mass Announcement Service) does not have the capability to accept numbers. The court also said they could not understand why the FCC did not come up with a system that transferred the cost of a telephone number or prefix blocking device to the phone company.



The court ruling affects calls in New York only and the FCC may have to devise separate rules for different states. A 1984 FCC restriction that limited "dial-a-porn" operation only between 9:00 p.m. and 8:00 a.m. was ruled "overly restrictive" by an appeals court. Court documents revealed that for the period ending April 1985, "dial-a-porn" calls in New York averaged six to seven million per month and yielded \$500,000 a month to New York Tel's MAS network.

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## HIGH TECH DISCOUNT SHOPPING CRAZE....

Discount cable-TV shopping from your living room is catching on with the consumer - and with the financial community! The concept is simple. You phone in orders for advertised goods via an 800 toll free number.

Home Shopping Network, Inc., of Clearwater, Florida presold two million shares of common stock at \$18.00. When the stock finally began trading, it quickly jumped to \$95! A three-for-one split is scheduled for next month. Now HSN is offering their securities as an incentive to lure more cable companies to carry their service. Up to 2.5 million shares will be available to cable operators who agree to three year affiliation commitments. HSN is already carried by systems representing some eight million subscribers.

Another cable shopping service, Cable Value Network opened its doors May 1st. They are also offering equity sharing to cable operators. CVN operates eight hours a day and 24 hours on weekends. They cablecast from the Minneapolis warehouse of Close-Out Merchandise Buyers, Inc. Cable firms get 5% commission on sales of all items sold in their zip code areas under \$100, 4% between \$100 and \$200 and 3% on items valued over \$300.

Home dish owners ordered thousands of dollars worth of goods when the service was just being satellite tested prior to cable pick-up during early May. Although goods sold without going through a cable system, commissions were still paid by CVN to the local cable franchise. There are no plans to scramble the service and that suits cable firms just fine since they will still draw the commission on goods sold.

FNN, the Financial News Network, operates primarily during regular business hours. Their stock recently soared from \$7 to past \$21. The reason is that they are selling excess time to video shopping services! They already had slots on many of the nation's cable systems eliminating the need for their leaseholders to market their service to cable operators.

We now understand that broadcast TV shopping is next! Independent television stations are the prime target. How long will it be before large retailers - like Sears, for instance - get involved in cable shop-at-home?

¶ AT&T, just about a monopoly provider of "800" toll-free service, is entering the automatic PPV ordering business! Using automatic phone number identification technology, a Milwaukee joint-venture experiment is underway where cable subscribers wanting to order special PPV (pay per view) programming can do so by simply dialing 1-800-Viewer-1 (or 1-800-Viewer-2, etc, for alternative PPV programming.) You only have to dial the number - nothing else. Orders are sent through AT&T's network to a CableData billing center. CableData computers cause your addressable cable converter to be turned on and forwards billing information to your local cable firm. AT&T hasn't decided how much to charge for their PPV ordering service but said local phone companies would share in the revenue.

¶ One of the three providers of satellite delivered PPV has gone down the tube. "People's Choice" ceased business as of May 31 leaving "Viewer's Choice" and "Request Television" to offer pay TV programming - mostly movies - to the public.

¶ "Wish I Had Thought of That" Department! BioHygenix, a Fremont, California, startup company has a \$2.99 plastic cover that snaps over telephone mouth and earpieces continually fighting germs! Impregnated in the plastic is a chemical called Bio-pruf. Hospitals are issuing the covers to patients as they check in. Patients take the telephone covers home with them when they check out. Sounds like the people-version of the flea collar.



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¶ FCC policy of granting shortwave broadcasting licenses to just about anyone is beginning to cause serious repercussions, says a June editorial in "Broadcasting" magazine. The shortwave broadcast bands are overloaded by a factor of two and could adversely affect not only the Voice of America, but possibly Radio Free Europe and Radio Liberty as well. Current shortwave broadcast station glut caused by 1980 FCC decision to license WRNO in New Orleans - the first shortwave station in 20 years. Now 19 HF broadcasters have been approved - ten of which are in operation. One proposed Alabama station, NDXE (In Dixie), is due to transmit in HF stereo. Author, who is also Director of Engineering for Radio Free Europe and Radio Liberty, asks for a moratorium on further shortwave station approvals by the FCC.

¶ Hitachi Ltd., Toyko, has a new printer that can produce high-quality 4"X5" photographic prints from video signals supplied by a television, video cassette recorder, personal computer or videotext terminal. Three different models are available. Hitachi also has a video disk drive capable of storing 50 still images on a 2-inch floppy disk.

¶ Image Data, a San Antonio, Texas, firm has developed a "Photophone" that permits users to talk and exchange still pictures over standard phone lines. Engineers can send drawings to distant locations ...doctors have even been able to exchange and discuss patient's X-Rays. Picture takes between 5 and 20 seconds to be transmitted at 9600 baud.

¶ Most computer software sold in Japan is ordered from the hardware makers - rarely directly from a software house. Software developed by Japanese computer firms represents 80% of the cost of a computer system. The country now has 400,000 computer programmers working for some 900 companies. Demand for Japanese programmers is increasing by 26% a year - twice as fast as the increase in supply. Of the ten largest software houses in Japan, seven are tied to computer manufacturers who traditionally give the software away free to sell the hardware. IBM is cutting the price of their computers and Japanese companies now realize that they cannot afford to continue giving free software to their customers.

## HIGH TECH TV AUDIENCE MEASURING....

A new TV audience scoring system called the "people meter" will be in broad use next year. The audience counting business is in a turmoil. The traditional rating services, Arbitron and A.C. Nielson, thought they knew who was watching what. Their system was simple. Statistically selected viewers kept a diary of their viewing habits. Analysis and extension of the diary data meant life or death to television shows ...and big dollars from advertisers.

New high-tech entrants into the audience measuring business, AGB Television, Scan-America and others, are about to change the way all rating firms operate. Tests using their newly developed computerized "people meters" show a wide disparity between the traditional diary and their metered system. Each person watching a TV show pushes a people meter button electronically attached to a TV set. The meter does the rest.

In prime time, people meters show that normally high-rated programs decline, low-rated shows improve, average number of viewers per household declines and the network shares drop somewhat. In daytime, viewing levels are consistently lower on people meters. During the summer, people meter service showed a larger drop in the HUT (households using television) levels.

Highly rated shows and stations are claiming that button pushing may affect viewer behavior and that after a while, all people in the household don't push them. In any event, A.C. Nielsen is now planning to introduce their own people meters in the fall of 1987 to coincide with the national introduction of AGB Television's metered service. The computerized diary is on the way!

## NEW DIRECTION FOR RADIO SHACK....

In an effort to present a more business-like appearance, Tandy (it is no longer Radio Shack since that has a unprofessional ring), has instituted a new dress code for computer salesmen. Typical of what is going on at Radio Shack these days, those with beards and mustaches must shave them off or be fired.



Computer sales now make up one third of Tandy's overall revenue. Their rocky start in the computer business was hindered by a product line originally developed for the home market. Last year (1985) was a disappointing year for Tandy. They suffered the first earnings decline in 23 years and took a \$34 million computer inventory write-down. Admitting that they were wrong, Tandy has switched over to the industry standard MS-DOS operating system and brought out a totally IBM compatible line.

Sales are now up substantially - profit +26%. More than half of Tandy's computer sales now come from the profitable corporate world and that is where they will place their emphasis in the future. Newest additions to the line, the Tandy 102 laptop and the Model 3000 (an IBM-AT clone but 35% faster) have been well received. A commercial machine, the 3000 can't be used in a home environment since the RFI level is prohibitive - particularly in a ham radio environment - another indication of Tandy's direction. (Strangely the IBM-AT is rated by the FCC as a residential "Class B" device.)

A new \$80 million facelift is currently in the works for Radio Shack Computer Centers. Their outside salesforce have been taking crash courses on how to sell the corporate buyer.

They say they aren't leaving the personal computer market, but you certainly can't prove it by recent directions. Old standbys, like the 8-bit Model 4 aren't being discontinued, but they are being allowed to die a peaceful death.

## COMMODORE, FROM RICHES TO RAGS....

While Tandy had a bad year in 1985, Commodore was doing super — or so it appeared! They shipped 2.25 million personal computers last year, mostly 64's and 128's - more than any other maker including IBM. But that was last year. For the fiscal year that just ended they will post a \$130 million loss! Commodore has already laid off 1,100 employees - 25% of its work force. Many of their Amiga engineers are now trekking across the valley to Apple. Hoping for future profitabil-

ity, Commodore is now a downsized company.

Last year the VIC-20 and Commodore 64/128 were the big guns. Sales were almost totally to individuals through mass merchandisers. This year discounters aren't carrying them. In fact, the under \$1,000 market for everyone dried up. Consumers are willing to pay more for home computers which fewer of them are buying.

Commodore had pinned their hopes on the Amiga 1000. They bought Amiga, Inc., a Los Gatos (California) startup, for \$26 million. The Amiga 1000 was to be an under \$2,000 MacIntosh. It hasn't been selling ...primarily because few outlets are carrying it. It is an excellent machine.

Commodore has a "discount store toy image". Most computer stores worry about Commodore marketing the 1000 to chains like K-Mart and Toys'R Us who undercut their VIC-20 and 64 sales last year. Amiga 1000 sales were disappointing even when Commodore dropped the price to \$1,295.

As it is now, IBM compatibility can only be achieved on the Amiga 1000 with software emulators and hardware add-ons. Pointing to Apple/Mac's proprietary operating system, Commodore's position was that IBM compatibility was not all that important. It is hard to believe that no one told them about the gossip that Apple was coming out with an add-on MS-DOS board for its MacIntosh ...and soon will add Unix.

Rumors are now that the price of the Amiga 1000 will drop to the \$795-\$995 range to make way for a new fully IBM-compatible Amiga 2000. If you believe the whispers coming out of Silicon Valley, the 2000 will sell in the \$1500 range and have both 3½" and 5¼" floppy/hard drive configurations. The hearsay has further eroded Commodore sales.

Outlets that have heard about the 2000 are hesitant to have anything to do with the 1000 for fear that they will have an expensive antique on their hands. Commodore naturally isn't talking and they are in severe financial trouble. The microcomputer business continues to be very volatile indeed!



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## FAST'N FURIOUS Telecommunications Roundup

¶ Internal Revenue Service has warned tax preparation software developers that they could be treated as tax preparers and subject to the same penalties if software inadequate.

¶ Motorola has a 10-MHz proposal before the FCC seeking spectrum for a "Radio LAN" (local area network) linking office computers. Spectrum now used by weather satellites.

¶ Texas Instruments has jumped on the laser printer bandwagon. New 3-model \$5995-\$7995 line partially made by Ricoh/Japan.

¶ Kinky computer services and sexually oriented bulletin boards are detailed in "The Comprehensive Guide to Unusual Online Services." (\$24.95 from Saunders & Pierce; P.O. Box 243, Middle Village, NY 11379)

¶ Northridge, California, firm (Morrison & Dempsey) has a new data/voice interface that allows cellular phones to send/receive data, record voice messages like an answering machine, and act as a cordless phone for use when you are out of the car. Cost: \$399. Firm also working on a cellular phone security system that uses autodialers to automatically send position to security firm if car is stolen.

¶ The 3½" floppy will eventually become the magnetic media storage standard for micros. It can store more data, is sturdier and more reliable. IBM now is supporting micro-floppies. Only accounting for 2% of the 372 million disks sold last year, 3½'s will outsell 5¼'s by 1990. Most will be made in Japan by Sony, Maxell and Fuji. Cost will drop to 60¢. Polaroid, Kodak, 3M, Xidex also gearing up.

¶ "9-5" the National Association of Working Women called for further study on the possible effects of VDT's (video display terminals) on pregnant women. Citing a relationship between intensive VDT use and stress, "9-5" wants terminals to contain lower electrostatic/magnetic field levels.

¶ Though high-priced, new IBM laptop looks like a winner. The \$1995 briefcase sized thirteen pounder has 25-line LCD display which folds into the keyboard and 3½" floppy disk. Tandy's new 24K laptop, the three pound 102, is the size of a book. (1½"X8½"X11½") Has 40 character 8 line LCD display, built in modem and uses four "AA" batteries. \$499. Accessories include printer and 3½" floppy.

¶ Videotex, digital information services direct to personal computers, haven't done well. Both Knight-Ridder's Viewtron and the Times-Mirror Gateway videotex service have folded. Problem was too few subscribers ...and expenses, too high. But there are still three major partnerships (with big name players like IBM, Sears, AT&T, Time, Chemical Bank, RCA ...Citicorp) trying to get a consumer oriented information service off the ground

¶ It's going to be tougher to import personal computers and add-on boards. The FCC has stepped up their campaign against computers and components that increase RFI interference. No longer can importers bring in sub-assemblies and market them to the public since the eventual interference level of the completed unit is unknown.

¶ AT&T has introduced a 20-number voice-actuated cellular telephone unit. The phone asks, "name please." and you speak the name of the preprogrammed person you want to talk to into a button-microphone located on the sun visor.

¶ VCR (video cassette recorder) penetration will reach 60% by 1990 - surpassing cable TV says researcher. It now stands at one third with 41% of the non-owners intending to buy a VCR. Adult males more likely to use a VCR. Average user reports 9.3 hours a week playing cassettes, another 6.1 hours for recording. Average purchase price dropped to \$420 last year, down from \$728 in 1981. VCR sales in VHS format increased from 71% in 1980 to 90% in 1985. Sales of blank videocassettes passed the \$1 billion sales level for the first time ever. (84.2% VHS, 15.8% Beta.)

¶ By the end of the decade you can expect these residential phone features by entering a two or four digit code. (1.) automatic reconnection to the last number that either called or was called, (2.) preselection of up to 30 calling numbers to be forwarded to another location, (3.) be alerted by distinctive rings or call-waiting tones to incoming calls from preselected parties, (4.) call tracing in cooperation with local police and (5.) blocking callers from designated numbers from ringing your phone. It is called LASS (local-area signaling services) - a recent AT&T software development. Unless unlisted, incoming phone call numbers can even be displayed before you answer them.

come from this and would appreciate it if you would publish our small classified ad (see margin between pages 4 & 7) on license preparation materials. Thanks!

WOULD YOU DO US A FAVOR?



## JAPANESE HAM SATELLITE TO LAUNCH....

Everything is set for a 2000 UTC July 31st launch of amateur radio's newest satellite. JAS-1, the joint Japanese National Space Agency/Nippon Electric Corporation built satellite, will be launched from Tanegashima Island, Japan, aboard an H-1 two stage launch vehicle. (It will actually lift off on August 1st their time.)

The telemetry, electronics and transponders were designed by JAMSAT volunteer engineers. It will circle the earth every two hours - yielding about 8 passes per day, each with a 20 minute window.

It has two parts to it. The first part will be much like the OSCAR-8, Mode J transponder. JAS-1 carries two separate Mode J transponders. One is voice - the other is a digital "store and forward" transponder. The digital transponder will provide "error-free" packet radio communications.

### Mode JA - (Voice):

A ground station with a 10 watt 2-meter SSB transmitter and a 10 dBi beam for uplink and a 70 cm receiver and a 15 dBi beam for downlink should be adequate. The transponder will have an output of 1 watt pep. Passband is 100 kHz wide.

Uplink channel: 145.90-146.00 MHz. LSB  
Downlink channel: 435.80-435.90 MHz. USB  
100 mw CW Beacon: 435.795 MHz.

### Mode JD - (Digital):

JAS-1 has four uplink FM channels and one downlink. One of the four channels will be selected by the satellite and rebroadcast on 70 cm. A simple packet station (TAPR-style TNC, a 2-meter FM transmitter and a 70-cm receiver) is all that is needed.

Uplink channel 1: 145.850 MHz  
Uplink channel 2: 145.870 MHz  
Uplink channel 3: 145.890 MHz  
Uplink channel 4: 145.910 MHz  
Downlink channel: 435.910 MHz

The power system consisting of 979

solar cells covering its 26 faces will generate 8.5 watts of power. Eleven Ni-cad batteries (capacity 6 ampere hours) will supply 14 volts to the satellite's main power buss. There are three antennas aboard JAS-1. A two meter reception antenna and two 70-cm transmitting antennas.

A launch information service will be established by AMSAT on 75 meters on Monday, July 28, and Wednesday, July 30, - 3857 kHz. On launch day (July 31) a 20 meter HF net will convene at 1930 UTC - frequency still to be determined.

Launch is scheduled for 2000 UTC. The satellite itself should turn on around 2132 UTC. The low earth orbit satellite should be first hearable on the east coast of the U.S. in the hours following and then move over to the west coast.

(Thanks to Harold Price/NK6K, for JAS-1 info.)

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## AMATEUR RADIO CALL SIGNS....

issued through the first of July 1986.

| Radio District    | Gp."A" Extra | Gp."B" Adv. | Gp."C" Tech/Gen | Gp."D" Novice |
|-------------------|--------------|-------------|-----------------|---------------|
| 0                 | NT0A         | KE0GG       | N0HFA           | KA0YCL        |
| 1                 | NF1N         | KB1YW       | N1EFH           | KA1OQG        |
| 2                 | NS2F         | KD2TV       | N2GJJ           | KB2AYF        |
| 3                 | NB3P         | KC3XR       | N3EZO           | KA3PTH        |
| 4                 | AA4UB        | KJ4VP       | N4OFO           | KB4TQE        |
| 5                 | WM5U         | KF5NP       | N5JJA           | KB5ADD        |
| 6                 | WU6O         | KI6GS       | N6NUF           | KB6NFA        |
| 7                 | NU7Y         | KE7RH       | N7IHP           | KA7ZDC        |
| 8                 | NS8G         | KE8GC       | N8HNY           | KA8ZWY        |
| 9                 | NM9E         | KD9XP       | N9FWW           | KA9VRC        |
| N.Mariana I       | AH0E         | AH0AC       | KH0AI           | WH0AAG        |
| Guam              | AH2W         | AH2BI       | KH2CC           | WH2AJH        |
| Johnston Is.      | AH3A         | AH3AC       | KH3AB           | WH3AAC        |
| Midway Is.        |              | AH4AA       | KH4AD           | WH4AAF        |
| Hawaii (*)        |              | AH6HD       | NH6GK           | WH6BJG        |
| Kure Is.          |              |             | KH7AA           |               |
| Amer.Samoa        | AH8B         | AH8AC       | KH8AD           | WH8AAW        |
| Wake Wilkes Peale |              | AH9AC       | KH9AB           | WH9AAE        |
| Alaska (*)        |              | AL7IA       | NL7IQ           | WL7BKK        |
| Virgin Is.        | KP2O         | KP2AZ       | NP2BT           | WP2AEW        |
| Puerto Rico       | WP4R         | KP4KK       | NP4VX           | WP4FRP        |

[Note: \* = All Group "A" call signs have been assigned in Hawaii and Alaska. FCC now issuing Group "B" call signs to Extra Class.]